

# ANNUAL REPORT

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2002

Emergency Medical Services, Inc.



“Coordinating The Excellence of Emergency  
Medical Services To The Citizens of Lincoln.”

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## *Letter of Introduction*

*EMS, Inc. was established in 1994 to provide independent medical oversight for the citizens of Lincoln and Lancaster County. Since that time, many significant and positive changes have taken place. It has been our privilege to serve the citizens in this capacity. However, our accomplishments are overshadowed by the performance of the prehospital providers in Lincoln and Lancaster County. It is truly a testimony of the dedication of these individuals that warrants recognition.*

*I would also like to take this opportunity to thank Dr. Jerry Rounsborg for his leadership and guidance over the past year. Dr. Rounsborg's experience in emergency medicine as well as his ongoing relationship with prehospital care providers has been nothing less than exceptional.*

*EMS Inc. also offers its gratitude to the physician members of the Lancaster County Medical Society for their contributions and medical oversight.*

*EMS, Inc. would like to extend its appreciation to Saint Elizabeth Regional Medical Center, BryanLGH West campus and BryanLGH East campus and finally the city of Lincoln for their continued financial support of its operations.*

*The following pages provide a brief overview of the recent accomplishments as well as future goals of Lincoln EMS, Inc.*

*Mike Miriovsky  
Executive Director*

### *EMS, Inc. Duties and Responsibilities*

#### **Fast Fact:**

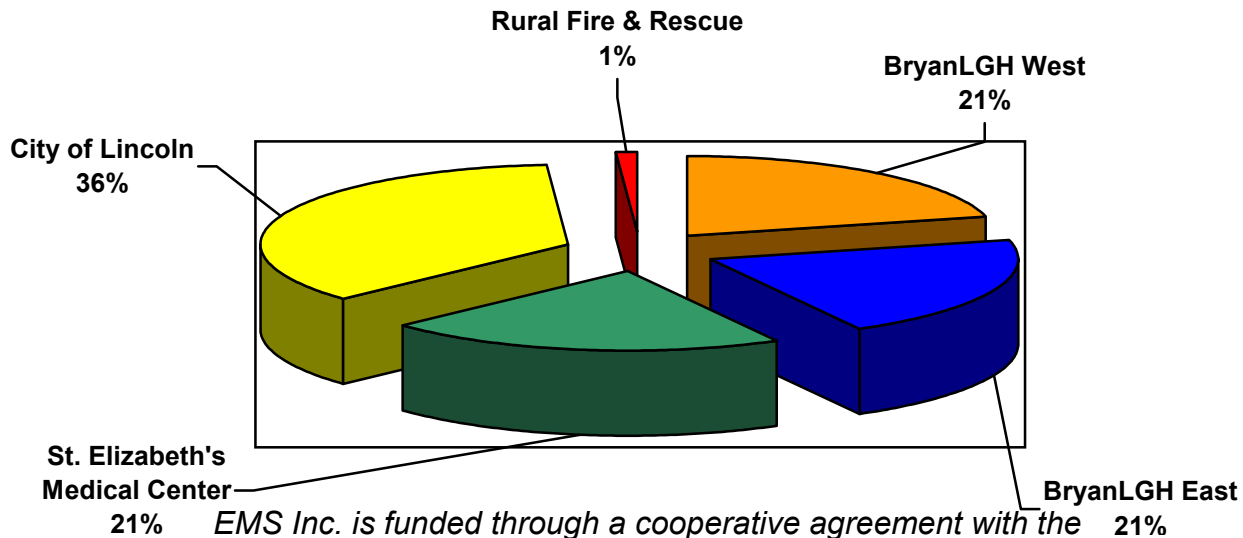
**EMS Inc. is responsible  
for monitoring over 425  
EMS providers in  
Lancaster County**

- ◆ Reviews 100% of ambulance calls.
- ◆ Continually checks the quality of paramedic, emergency medical technicians and 911 dispatchers.
- ◆ Investigates customer concerns about 911-dispatch and ambulance service.
- ◆ Approves all plans used by ambulance staff for the care they provide to patients.
- ◆ Provides recommendations to city leaders regarding ambulance service.
- ◆ Evaluates ambulance response times.
- ◆ Conducts research analysis to improve patient care.
- ◆ Participates and facilitates programs to improve the delivery of healthcare to the citizens of Lincoln and Lancaster County.
- ◆ Attends national conferences to remain current on national trends and to benchmark the City of Lincoln with other communities through networking.
- ◆ Reviews ambulance rates and makes recommendations to city leaders.
- ◆ In cooperation with the Lancaster County Medical Society, establishes standards and training requirements for EMS providers.

# EMS Inc. Revenue

## Fast Fact:

EMS Inc. facilitated over 140 airway-training sessions for paramedics in 2002.



EMS Inc. is funded through a cooperative agreement with the three Lincoln hospitals, the City of Lincoln and nine rural EMS departments. The \$248,000 annual operating expenses rely on no tax support. Comparatively based on the population of Lancaster County, this equates to less than one dollar annually per person.

### FY 2002 Approved

#### Revenues:

|                    |             |
|--------------------|-------------|
| Bryan/LGH West     | \$55,000.00 |
| Bryan/LGH East     | \$55,000.00 |
| St. Elizabeth      | \$55,000.00 |
| City of Lincoln    | \$79,454.00 |
| Rural Medical Fees | \$2,200.00  |
| Interest Income    | \$1,500.00  |

**Total** **\$248,154.00**

#### Expenses:

|                       |              |
|-----------------------|--------------|
| Wages/Benefits        | \$209,825.00 |
| Office Expenses       | \$12,555.00  |
| Administration        | \$15,024.00  |
| Professional Develop. | \$5,650.00   |
| Corporate Filings     | \$800.00     |
| Medical Control       | \$800.00     |
| Contingency           | \$3,500.00   |

**Total** **\$248,154.00**

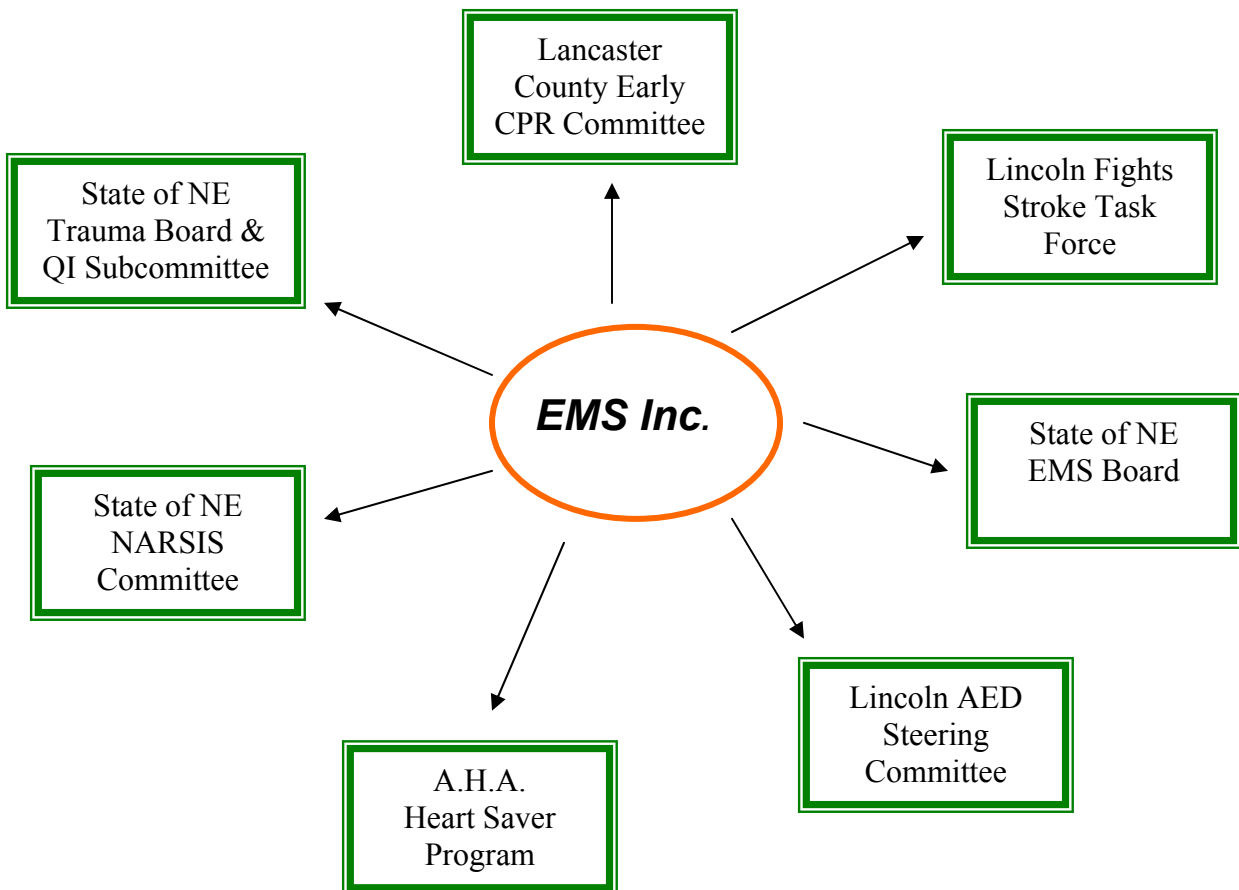
### **Committees and Task Forces**

### **Fast Fact:**

**EMS Inc. provides medical oversight for 13 EMS agencies in Lancaster County.**

EMS, Inc. takes pride in participating in many community programs, which enhance the level of care provided to its citizens.

EMS, Inc. currently has representatives on the following active committees.



*EMS, Inc. has been asked, on several occasions, to provide assistance and guidance in communities throughout Nebraska so that they may provide an improved level of service for their community. This would include participating in the assessment of the Broken Bow Ambulance service, contracted through the State of Nebraska. EMS, Inc. also has participated in the ALS Tiering Program recently introduced by Jefferson and Gage County. In addition, EMS, Inc. has been asked by these communities to provide a level of quality improvement and make ongoing suggestions for improving prehospital service.*

## *EMS, Inc. Survey 2002*

In the calendar year 2002, EMS, Inc. conducted a system-wide survey to determine the strengths and weaknesses of the prehospital system. This included a feedback received from prehospital providers, 911 dispatchers, hospital emergency room staff and rural fire and rescue departments. This valuable information provided the EMS Board of Directors as well as the medical director an opportunity to not only assess the current status of the EMS system, but to also formulate future goals for the Lincoln EMS system.

As a result of this EMS survey, action was taken to address the following issues:

- ◆ **Medical Director Involvement** – it was the paramedics and 911 dispatchers request that the medical director have more involvement with crews; i.e. visit stations, ride-alongs, etc. Since that time, the medical director has taken steps to maintain a more consistent presence in the prehospital environment.
- ◆ **Ambulance Staffing** – many paramedics indicated that they would prefer to have two paramedics on each ambulance. Currently, EMS Inc., has been discussing possible options to support this transition.
- ◆ **Selective dispatch system** – many fire department employees requested that calls only be dispatched in those stations in which responding units are housed. In discussions with the fire department, steps are being taken to address this issue.
- ◆ **Ambulance only responses** – consideration is being given to reduce the number of times that excessive amounts of vehicles are sent to “non-emergency” calls.
- ◆ **ER staff knowledge of EMS patient care protocols**. Emergency department staff indicated that they felt there was limited information regarding patient care protocols. Though each emergency department is provided a patient care guideline, a more consistent approach to communicating with these departments has been established. This will include frequent meetings with the emergency room department physicians and nurses to provide more concurrent information regarding the EMS system.
- ◆ **Patient medications** – emergency room staff indicated they would like the patient medications transported to the emergency room rather than merely writing them down on a piece of paper. EMS, Inc. facilitated a process, which provided medication bags for each of the responding units in the Lincoln EMS system as well as the rural environment and Midwest Medical. It is hoped through this process, that prehospital providers will have the necessary supplies to provide hospital staff with the actual patient medications.
- ◆ **Improve radio reports** – it was indicated that additional training for prehospital providers in regards to patient care reports to hospitals could use improvement. EMS, Inc. is currently working with Lincoln Fire Department training to enhance the current process.

The EMS Inc. Board of directors represents seven members from the communities of Lincoln and Lancaster County. The mayor's office selects 5 members that are approved by the Lincoln City Council. The Lancaster County Board as well as the Lancaster County Medical Society in turn each appoints one member. Board members serve a three-year term.

### **Board Members – 2002**

Dale Michels, MD – President

Neal Westphal

Ameeta Martin, MD

John Hansen, MD

Charlene Gondring

Randy Boldt

Russ Bayer

**Fast Fact:  
Paramedic protocols  
are developed by EMS  
Inc., in cooperation  
with the Lancaster  
County Medical  
Society.**

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### **EMS, Inc. Staff**

Mike Miriovsky

Executive Director

Jay Wilger

Quality Improvement Coordinator

Marilyn Keller

Office Manager

Terry Rounsborg, MD

Medical Director

### **Lancaster County Mutual Aid**

The Lincoln Fire Department responded to 1070 requests for ambulance service outside of the city of Lincoln during 2002. The average response time to life-threatening emergencies was 11.38 minutes.



### *Monitoring Patient Care Every Step of the Way*

From the initial call take until the patient arrives at the hospital, it is the responsibility of EMS, Inc. to monitor the performance of the men and women who provide prehospital care. This begins when the 911 Center answers a caller's request for an ambulance. EMS, Inc. is responsible for the priority dispatch system, which allows 911 dispatchers to ask a series of questions and prioritize the emergency response. In addition, 911 dispatchers are trained to provide "pre-arrival instructions" rather than waiting for the EMS team to arrive at the patient's side, 911 dispatchers are skilled in providing the caller with information that can mean the difference between life and death.

Ambulance response times are monitored by EMS, Inc. The current City of Lincoln Ordinance has set a goal of Lincoln Fire Department ambulances arriving at the scene of life-threatening emergencies in eight minutes or less 90% of the time. This is accomplished through data supplied by the 911 Center. When the EMS providers arrive at the patient's side, it is the responsibility of EMS, Inc. and its Medical Director to develop the patient care guidelines that the paramedics will use in determining the best course of treatment.

**Fast Fact:**

**EMS Inc. reviewed over  
16,000 ambulance calls  
in 2002.**

Following the completion of the call, it is EMS, Inc.'s responsibility to review the patient care report to monitor for compliance with established guidelines. In addition, numerous data are collected to evaluate the overall performance of the Lincoln EMS system. This allows EMS, Inc. to make those necessary adjustments to further enhance the care provided to the citizens of Lincoln and Lancaster County.

### Monthly Case Reviews

Peer-based opportunity for review of EMS performance from actual system medical emergencies. In 2002, types of discussions included review of cardiac, neurological trauma, respiratory and medical/legal. The chart review also provides the opportunity for EMS providers to communicate with members of the medical community. In 2002 that included Dr. Charles Gregorious, anesthesiology, Dr. Reginald Burton, trauma surgeon, Dr. Christopher Kent, neurological and spinal surgeon, Dr. Yogi Hiremath, cardiologist, Dr. Dale Michels, family physician, Board President of the EMS, Inc. Board of Directors. Also had discussions with members of the Lincoln Police Department and mental health specialists from BryanLGH West.

That was then....



This is now.....

### Revised Paramedic Internship

A revised internship was implemented in 2002. This included restructuring of the way new paramedics enter into the system. They are now assigned a primary preceptor who has the responsibility of insuring that the paramedic is prepared to be brought forward to the medical director for system approval. The new program has been using a redefined field evaluation form as well as all internship material.

### Chart Audits

EMS Inc., reviews all patient care reports from the Lincoln Fire Department, Midwest Medical and rural agencies. More than 16,000 reports were reviewed by EMS, Inc. staff, resulting in significant feedback given to providers for quality improvement purposes.

The QI Coordinator continues to participate in direct observation during ride-along time on the ambulances with both established paramedics as well as new paramedics. In 2002 nine new system paramedics entered into the EMS system, eight from the Lincoln Fire Department and one with Midwest Medical.

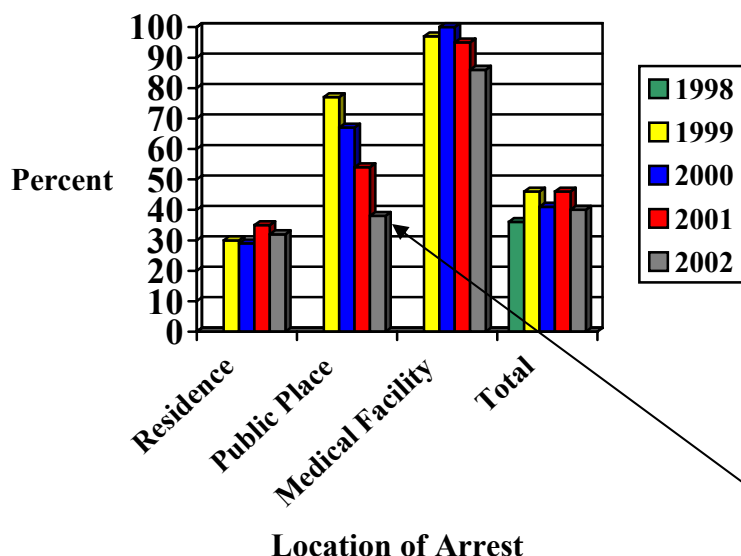
## Rural Agencies

EMS, Inc. continues to provide medical oversight and quality improvement functions for many services in Lancaster County including Cortland Fire and Rescue, Douglas Fire and Rescue, Firth/Panama Fire and Rescue, Hallam Fire and Rescue, Hickman Fire and Rescue, Southeast Rural Fire and Rescue, Lincoln Air Guard, Bennet Fire and Rescue, and Duncan Aviation.

Quality Improvement training includes ongoing AED, (automatic external defibrillator) training and re-certification, documentation training and review of various medical and trauma related emergencies. EMS Inc., also helps to train and re-certify providers in airway management, including the combitube and lighted stylette airway management.

One example of our interaction with the rural community included an incident, which occurred on September 21, 2002, while using the AED, Hallam Fire and Rescue successfully resuscitated a cardiac arrest patient. On November 14, 2002, EMS, Inc. and State of Nebraska representatives also recognized the efforts of Hallam Fire and Rescue.

*Percent of cardiac arrest patients receiving bystander CPR*



EMS Inc. statistics suggest that there has been over a 35% decrease of bystander CPR performed on patients that collapse in a public place.

### **Fast Fact:**

**EMS Inc. trained and certified 150 individuals to operate Automatic Defibrillators.**

***Paramedic Comments:***

*"Huge improvement over past clinical training."*

*"This has been one of the best learning experiences I've ever had. Dr. Gregorious was great. I would like to go back and do this again."*

*"This experience was far superior to any clinical OR rotation that I can recall. CRNA was very helpful and willing to answer questions."*

*"I enjoyed my experience in the OR. Good review with additional advice that was helpful."*

*"I had a great time. Also, I will be looking forward to my next rotation in the airway management program. It deserves a thumbs up."*

**Airway Management Program**

Based upon the number of paramedics in the system and the number of field opportunities for advanced airway management, in the fall of 2001, we determined there was a need for some type of advanced airway management education and training. This program began in 2001 and continued to evolve throughout 2002. During 2002, we continued to take providers into the operating rooms of BryanLGH West and Saint Elizabeth three times per week for one-on-one mentoring with anesthesiologists and CRNA's. It has become so successful that all system paramedics participate in the program.

This program has been a tremendous success from both the perspective of the providers and the anesthesia community.

***Anesthesia Provider Comments:***

*"I like working with the paramedics because airway management skills are very important when intubation is not possible." - Dave Metz, CRNA*

*"The paramedics potentially could be the ones to provide airway management to him or his family." – Bob Bush, CRNA*

*"I want them to be well trained and good at airway management. The community deserves the best that we can provide." Chuck Gregorious, MD*

*The airway management program received attention from the Journal of Emergency Medical Services (JEMS) magazine. A national publication that is read by EMS providers throughout the world. JEMS highlighted the program in their June 2002 issue, with a multiple page article including pictures from the OR. Following the publication's release, EMS, Inc. received phone calls from numerous EMS agencies through the country in their hope of implementing a similar program in their community. A few examples of the communities we spoke with included EMS systems as close as Fremont, Nebraska and as far away as Baltimore, Maryland. A few other examples include systems in Missouri, Minnesota Texas and Idaho. We welcomed the opportunity to assist these systems in implementing a similar program.*

### *IV Program*

During 2002, it became apparent that based upon the success of the airway management program, that similar issues with regard to IV proficiency might also be addressed in the hospital clinical setting. With the assistance of the Saint Elizabeth Regional Medical Center short-stay department and staff, a program was implemented to address those issues. The program has been very successful. As part of this program, providers arrive to the short-stay department early in the morning and spend one-on-one time mentoring with short-stay staff working on IV technique and proficiency. Feedback from both providers and short-stay staff has been very positive.

### *Track Providers Statistics*

Specifically we track proficiency for IV placement, endotracheal intubation and rapid sequence intubation. It helps us evaluate system performance as a whole and also system performance at the individual level. Also, we can identify if a provider is having difficulty and arrange for remedial educational opportunities in addition to routine airway management and IV clinical experiences.

#### **Medical Director Comments:**

Overall I am pleased with the clinical skills proficiency of the Lincoln EMS providers. The airway management training program has led to an increased level of care for each and every paramedic. I was particularly pleased to hear all of the positive comments from physicians in the community regarding the airway management program.

2002 presented itself with several improvements in the way we provide patient care. Fifteen cardiac arrest patients were successfully resuscitated by EMS providers. IV and Endotracheal Intubation proficiency levels remain within an acceptable range.

I am proud to say that the citizens of Lincoln and Lancaster County are served by several dedicated agencies that provide the highest quality care utilizing the most modern technology. I will continue to focus my attention on improving those areas determined to be less than exceptional.

I look forward to the challenges of 2003 and beyond. But more importantly, I will continue to expect nothing less than the quality of care that I would want for my own family and friends.

Sincerely,  
Terry L. Rounsborg MD  
Medical Director

## Advanced Life Support Paramedic Skill Proficiency

### Advanced Life Support Skills During Cardiac Arrest (Minutes)

|      | IV Access | ET Intubation | Medication | Defibrillation* |
|------|-----------|---------------|------------|-----------------|
| 1998 | 6.8       | 4.9           | 6.1        | --              |
| 1999 | 6.3       | 4.7           | 5.5        | 6.6             |
| 2000 | 6.1       | 4.9           | 5.7        | 5.6             |
| 2001 | 8.1       | 5.0           | 6.0        | 4.6             |
| 2002 | 7.6       | 4.7           | 6.1        | 4.2             |

*Definition:* IV, ET & Meds measured in minutes from provider arrival at scene to completion of skill.

\*Defibrillation measured in minutes from time of dispatch to first countershock delivered.

### Percent of Patients Receiving Intubation/IV Access During Cardiac Arrest

|      | IV Access | ET Intubation |
|------|-----------|---------------|
| 1998 | 85%       | 93%           |
| 1999 | 90%       | 95%           |
| 2000 | 96%       | 93%           |
| 2001 | 96%       | 98%           |
| 2002 | 87%       | 97%           |

**Fast Fact:**  
Less than 50% of cardiac arrest patients received bystander CPR in the City of Lincoln

*Definition:* Percentage of cardiac arrest patients that received the IV or ET Intubation when indicated.

### ALS Skill Proficiency all Attempts

#### Endotracheal Intubation

|      | Attempts | Successful | Proficiency |
|------|----------|------------|-------------|
| 2001 | 298      | 225        | 75.5%       |
| 2002 | 276      | 210        | 76.1%       |

#### Intravenous Access

|      | Attempts | Successful | Proficiency |
|------|----------|------------|-------------|
| 2001 | 4002     | 2861       | 71.5%       |
| 2002 | 4113     | 3030       | 76.1%       |

## Cardiac Arrest Data

### Return of Spontaneous Circulation by Initial Rhythm In the year 2002.

|                  | V-Fib/Tach | Asystole | PEA     | Total     |
|------------------|------------|----------|---------|-----------|
| # Treated        | 35         | 59       | 40      | 134       |
| In Field         | 16(46%)    | 11(19%)  | 13(33%) | 40(30%)   |
| At Hospital      | 15(43%)    | 6(10%)   | 10(25%) | 31(23%)   |
| Discharged Alive | 10(29%)    | 2(3%)    | 3(8%)   | 15(11.1%) |

*Definition:* The total number of patients with the return of a pulse, based upon presenting cardiac rhythm.

### Survival of Cardiac Arrest Patients to Hospital Discharge

